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LETTERS

SOIL PROPERTIES

DEFORESTATION KILLS OUR FUTURE

DEFORESTATION is the act of forest clearing for agricultural, logging or urban development. Deforestation alters climate, vegetation and animal ecology.

In Malaysia, trees are logged for their high economic value.

Non-sustainable forest opening or development has led to environmental problems, namely soil erosion, landslides and flooding.

In such situations, biodiversity vanishes if no initiative is taken to preserve or nurture it.

When trees are removed without management or monitoring practices, more carbon dioxide is released into the air.

Deforestation is the second largest anthropogenic source of carbon dioxide in the atmosphere, ranging from six per cent to 17 per cent.

A large portion of this caused by illegal logging.

Keeren S. Rajoo, a PhD candi-

date from the Department of Biology, Faculty of Science, Universiti Putra Malaysia, said deforestation that focused on high-value species could cause the selective clearing of important tree species.

These are often large, long-living, seed-producing trees. This loss of structural, habitat and seed sources will leave forests less stable and productive.

Also, canals and trails are often made to cut deep into forests. This results in lowered water levels and increased human access into forests, which can expedite illegal hunting and other destructive activities.

The most widely accepted cause of illegal logging is profit. Illegally-harvested timber is more profitable as there is no expenditure on obtaining certification or taxation.

Reports have shown that half of the trees illegally removed from forest are used as fuel.

This is true for forests that

have poor communities living close by.

The worst method of illegal logging is clear cutting, whereby the trees are removed from an area, leaving the land barren.

It is often described as an ecological trauma. This method is often used by loggers to maximise profits.

Forest health begins from the soil, which is the source of essential nutrients to the successful growth of plant species.

The opening of forests for logging and agriculture leads to soil degradation.

Without tree canopy to cover the soil, the direct impact of sunlight and rainfall can degrade soil fertility.

Unrestricted human activity can also damage soil, for instance, increase in soil compaction due to machinery decreases air and water pores in the soil and, thus, inhibits the activities of soil macro-organisms and other microbes.

Forests are ecosystems that affect almost every species on the planet. When they are degraded, it can set off a devastating chain of events. Illegal logging causes harm to a nation's economy and the environment.

The only way to rectify the devastating effects of illegal logging is through forest rehabilitation programmes.

As forest soil is the basis of forest health, studying the effects of forest rehabilitation projects on soil fertility will serve as the basis of healing this forests.

Forest health is evaluated through soil properties analyses, ecosystem productivity or soil biota.

It is the evaluation of the relationship between soil and forest trees. Soil may seem trivial, but it is the backbone of a forest's wellbeing.

Research on soil fertility of rehabilitated forests in Perak was carried out by soil scientists from Universiti Putra Malaysia.

The leader of the project, Associate Professor Dr Arifin Abdu, studied the impact of forest rehabilitation on Chikus, Kinta and Tapah Hill forest reserves.

He said the success of forest tree growth was often perceived to be dependent on external factors, such as sunlight and rainfall.

However, soil played the most important role in ensuring good tree growth.

Studies on soil properties of Malaysian forest reserves is explained in a book titled *Tropical Forest Soil Characteristics in Rehabilitated Forests of Malaysia*, published by UPM Press.

The book summarises studies on soil properties of selected forest reserves and how forest rehabilitation programmes have affected soil fertility.

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